Open Radio Station

Key Benefits

- Autonomous base station
- Amarisoft radio software
- Intel / AMD / ARM CPU
- 2 x 1 W MIMO TDD or FDD
- 3GPP Release 18
- IEEE 1588v2
- B28/38/39/40/41/42/43/48
- N28/38/39/40/41/48/77/78/79
- Other bands on demand
- 170 x 102 x 240 mm
- 2.4 kg and 32 W
- 1 / 2.5 Gbps PoE
- Open Source OSS/BSS
- Open Source PaaS
- Open Source CDN
- Open Source PLC
- Instant messaging
- PTT / video streaming
- Tactical edge / BMS
- IEC 61131-3
- OPC-UA TSN
- Plug-and-play
- Self-configuring
- Self-healing
- Global delivery
- 1-year warranty

Building block for cost-efficient SimpleRAN infrastructure.

Rapid.Space Open Radio Station (ORS) - compact 4G/5G base station

Rapid.Space ORS speeds up deployment of 4G/5G private and public networks.

Autonomous 3C network operation

The ORS runs as autonomous base station (RU, BBU, core, PTT, instant messaging and video streaming in a single enclosure). It is ideal for private connected collaborative computing (3C) networks, defense or rescue missions.

Network densification

Rapid.Space ORS runs as managed RU and BBU connected to an existing core network (S1/NG) - perfect for densification of existing 4G/5G networks.

Single cable

Rapid.Space ORS uses a single Power Over Ethernet (PoE) cable for power supply and TCP/IP backhaul. It supports both GPS and IEEE 1588v2 time synchronization.

Globally available

Rapid.Space ORS can be shipped worldwide and includes EU certification (CE). Certificates for the USA (FCC), China or Japan are possible on demand.

Open source tactical edge

Powered by Ubuntu GNU/Linux, SlapOS OSS/BSS, Galene PTT, Delta.Chat messaging, Theia PaaS, haproxy CDN, Beremiz PLC and Netframe digital workplace. All open source.

Cloud management, scalability, mass deployment, configuration etc.

By default, ORS configuration is provided from our cloud-based OSS/BSS. You can easily deploy hundreds of ORS and thousands of UE. Scalability is no issue. Offline configuration without cloud is also possible.

Local cloud infrastructure

For sensitive applications, it is possible to deploy the OSS/BSS locally. You can

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then manage multiple ORS without any connection to an external network.

3GPP KPI calculation

Collection of eNb/gNb counters and 3GPP KPI calculation are provided by Wendelin RAN technology built into Rapid.Space OSS/BSS.

Simultaneous UE connections

In 5G mode, ORS can support more than 512 active UEs on Intel Core Ultra 7 or AMD CPU and hundreds on Intel x7425E with simultaneous traffic.

Step-by-step ORS documentation (open source)

Fully documented configuration and customisation is ideal to explore 4G/5G vRAN applications, optimise performance, develop new services or do research.

Modular design

Rapid.Space ORS hardware uses a modular design which supports eight standard frequencies (38/39/40/42/43/77/78/79) and other frequencies on demand (1/2/3/4/5/7/8/10/12/13/20/25/26/28/30/41/46/48/49).

Model	ORS-39	ORS-40	ORS-38	ORS-42	ORS-43	ORS-77	ORS-79
CPU	Intel Atom x7425E (default variant) • Intel Core Ultra 7 165U (Pro variant)						
RAM	8 GB						
SSD	128 GB						
Power	PoE Type 3						
Network	1 Gbps (x7425E) or 2.5 Gbps (Ultra 7) RJ45 Ethernet						
OS	GNU/Linux (open source)						
OSS/BSS	SlapOS (open source)						
Edge computing	Galene (PTT) • Delta.Chat (Messaging) • Theia (PaaS) • Traffic Server (CDN) • Netframe (Workspace) • Beremiz (PLC)						
vRAN stack	Amarisoft with built-in eNodeB • gNodeB • core network						
Dimension	170 x 102 x 240 mm						
Weight	2.4 kg						
Certifications	EN 301 489-52 • EN 301 489-19 • EN 62479 • EN 62368-1 • EN 60950-22 • RoHS						
Radio power	2 x 1 W (max)						
Mode	TDD	TDD	TDD	TDD	TDD	TDD	TDD
LTE Bands (TDD)	B39	B40	B38, B41	B42, B48	B43, B48		
NR Brands (TDD)	N39	N40	N38, N41	N48, N78	N48, N78	N77	N79
Maximum bandwidth	50 MHz (AD variant) • 100 MHz (GC variant)						

Amarisoft license

The ORS includes Amarisoft 4G/5G stack licence at no extra cost.

"Zero-Knowledge" security

No credentials are shared between the ORS and Rapid.Space - ideal for sensitive applications that require full reversibility and offline operation.

SDK option

ORS "SDK" model includes root access and CLI configuration of Amarisoft without cloud.

Rapid.Space

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